

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A lithographic material that contains a random copolymer bearing at least one polyhedral oligomeric silsesquioxane group, wherein the alkyl substituents of the polyhedral oligomeric silsesquioxane group which are not linked to the main chain (backbone) of the random copolymer contain up to 3 carbon atoms.

2. (Previously Presented) A positive tone lithographic material that contains a random copolymer bearing at least one polyhedral oligomeric silsesquioxane group, wherein the alkyl substituents of the polyhedral oligomeric silsesquioxane group which are not linked to the main chain (backbone) of the random copolymer contain up to 3 carbon atoms.

3. (Previously Presented) A chemically amplified positive tone lithographic material that contains a random copolymer bearing at least one polyhedral oligomeric silsesquioxane group, wherein the alkyl substituents of the polyhedral oligomeric silsesquioxane group which are not linked to the main chain (backbone) of the random copolymer contain up to 3 carbon atoms.

4. (Previously Presented) A chemically amplified positive tone lithographic material that contains a random copolymer bearing at least one polyhedral oligomeric silsesquioxane group, wherein the alkyl substituents of the polyhedral oligomeric silsesquioxane group which are not linked to the main chain (backbone) of the random copolymer comprise ethyl groups.

5. (Previously Presented) A chemically amplified positive tone lithographic material that contains a (meth) acrylic random copolymer, bearing at least one polyhedral oligomeric silsesquioxane group, wherein the alkyl substituents of the polyhedral oligomeric silsesquioxane group which are not linked to the main chain (backbone) of the random copolymer comprise ethyl groups.

6. (Canceled)

7. (Previously Presented) A lithographic process comprising exposing a lithographic material containing a random copolymer bearing at least one polyhedral oligomeric silsesquioxane group to 157 nm radiation, or VUV exposure, or EUV exposure, wherein the alkyl substituents of the polyhedral oligomeric silsesquioxane group are not linked to the main chain (backbone) of the random copolymer contain up to 3 carbon atoms.

8. (Previously Presented) A lithographic process comprising exposing a lithographic material containing a random copolymer bearing at least one polyhedral oligomeric silsesquioxane group to 157 nm radiation, or VUV exposure, or EUV exposure, wherein the alkyl substituents of the polyhedral oligomeric silsesquioxane group which are not linked to the main chain (backbone) of the random copolymer comprise ethyl groups.

9. (Previously Presented) A bilayer lithographic process comprising exposing a positive tone lithographic material containing a random copolymer bearing at least one polyhedral oligomeric silsesquioxane group to radiation, wherein the alkyl substituents of the polyhedral oligomeric silsesquioxane group which are not linked to the main chain (backbone) of random copolymer contain up to 3 carbon atoms.

10. (Previously Presented) A bilayer lithographic process comprising exposing a positive tone lithographic material containing a random copolymer bearing at least one polyhedral oligomeric silsesquioxane group to radiation, wherein the alkyl substituents of the polyhedral oligomeric silsesquioxane group which are not linked to the main chain (backbone) of the random copolymer comprise ethyl groups.

11. (Previously Presented) The lithographic material of claim 1, wherein the random copolymer comprises a meth(acrylate) monomer having a hydrophilic group and a meth(acrylate) monomer having a protected hydrophilic group.

12. (Currently amended) The lithographic material of claim 1, wherein the random copolymer is prepared from a monomer mixture comprising ~~comprises~~ 20 weight percent to 60 weight percent of a monomer bearing the polyhedral oligomeric silsesquioxane group ~~in a range of 20 weight percent to 60 weight percent.~~

13. (Currently amended) The lithographic material of claim 1, wherein the random copolymer is prepared from a monomer mixture comprising ~~comprises~~ at least 30 weight percent of a monomer bearing the polyhedral oligomeric silsesquioxane group.

14. (New) A lithographic material that contains a homopolymer bearing at least one polyhedral oligomeric silsesquioxane group, wherein the alkyl substituents of the polyhedral oligomeric silsesquioxane group which are not linked to the main chain (backbone) of the homopolymer comprise ethyl groups.